2N® Indoor Touch

User guide

Firmware 1.3.0
Version 1.2

Content

1. Product Overview 4

1.1 Product Description 5
1.2 Differences between Models 6
1.3 Terms and Symbols 7
1.4 Safety Precautions 8

2. Description and Installation 9

2.1 Before You Start 10
2.2 Brief Installation Guide 12
2.3 Installation Conditions 13
2.4 Status LED 15
2.5 First Startup 16

3. 2N® Indoor Touch Configuration 17

3.1 Factory Reset 18
3.2 Introductory Screen 19
3.3 Launcher Configuration 20
3.4. Device Upgrade 23

4. 2N® Helios IP Mobile Configuration 24

4.1 Application Description 25
4.2 Introductory Screen 26
4.3 Notification in 2N® Indoor Touch Environment 27
4.4 Application Configuration 28
4.5 Connection to 2N® Helios IP 29

5. Technical Parameters 30

6. Supplementary Information 32

6.1 Troubleshooting 33
6.2 Directives, Laws and Regulation – General Instructions and Cautions 34

1. Product Overview

In this section, we introduce the **2N® Indoor Touch** product, outline its application options and highlight the advantages following from its use. The section also includes safety precautions.

Here is what you can find in this section:

- 1.1 Product Description
- 1.2 Differences between Models
- 1.3 Terms and Symbols
- 1.4 Safety Precautions

1.1 Product Description

Based on the Android OS, **2N® Indoor Touch** helps load third party applications to a device (if enabled so in the device configuration), thus improving its flexibility. It contains a 7" colour LCD display with a capacitive touch layer, loudspeaker, microphone and Ethernet and WiFi interfaces (depending on the Part No.) for LAN connection. Optionally, **2N® Indoor Touch** is equipped with a wireless card reader (de pending on the Part No.). Analogue inputs and outputs also part of the equipment.

2N® Indoor Touch has a factory pre-installed application - **2N® Helios IP Mobile**, which helps establish video calls with any other video call supporting devices (SIP + H.263/4). Primarily, the application is intended for the **2N® Helios IP** intercom family.

2N® Indoor Touch contains a specific user interface for an increased user comfort and safety.

2N® Indoor Touch basic features:

- 7" LCD colour display with capacitive touch layer
- Wall mounting option
- LAN interface with PoE supply option
- 802.11bgn WiFi interface (depending on the Part No.)
- Contactless card reader (depending on the Part No.)
- Status RGB LED at front
- Binary inputs and outputs for control of other devices
- Android operating system with pre-installed basic applications and own user interface
- Pre-installed **2N® Helios IP Mobile** application

1.2 Differences between Models

This manual is valid for all the **2N® Indoor Touch** types. Therefore, please note that several features described in this document are only available in selected models or need to be activated with a licence key. If a feature is not available in all the models, a note is added to the respective subsection.

1.3 Terms and Symbols

The following symbols and pictograms are used in the manual:

Safety
- **Always** abide by this information to prevent persons from injury.

Warning
- **Always** abide by this information to prevent damage to the device.

Caution
- **Important information** for system functionality.

Tip
- **Useful information** for quick and efficient functionality.

Note
- Routines or advice for efficient use of the device.

Future Functions, New Features
The grey-marked text in this document designates the functions and features that are under preparation or development at present.

1.4 Safety Precautions

The manufacturer reserves the right to modify the product in order to improve its qualities. The manufacturer continuously responds to the clients' requirements by improving the software. Refer to the www.2n.cz company websites for the latest **2N® Indoor Touch** firmware and User Manual.

- It is prohibited to use any transmitters, including **2N® Indoor Touch** with an internal WiFi adapter, in areas where explosives are used, such as quarries.
- WiFi adapters may affect sensitive life-saving devices in medical centres. Therefore, it is prohibited to use **2N® Indoor Touch** with an internal WiFi adapter in such facilities.
- In general, any RF energy radiation prohibition regarding WiFi antenna equipped devices applies to **2N® Indoor Touch** with an internal WiFi adapter.
- Where necessary, a **2N® Indoor Touch** unit can be installed at a safe distance from the prohibited area and an Ethernet cable can only be carried to the required site.
- Although **2N® Indoor Touch** is not intended for cars or aeroplanes, all prohibitions and regulations relating to adapter equipped devices apply to **2N® Indoor Touch** too.

2. Description and Installation

This section describes the **2N® Indoor Touch** installation and correct connection.

Here is what you can find in this section:

- 2.1 Before You Start
- 2.2 Brief Installation Guide
- 2.3 Installation Conditions
- 2.4 Status LED
- 2.5 First Startup

The device is designed solely for wall mounting. Install the device with the aid of a holder, which is included in the product and Installation Manual delivery.

Prepare the proper wall fittings (screws and wall plugs suitable for the given wall type and structure). Respect the local standards for installation of electronic devices onto flammable materials while mounting!

Use a cross-point screwdriver for tightening the fitting screws on the device sides to place **2N® Indoor Touch** properly.

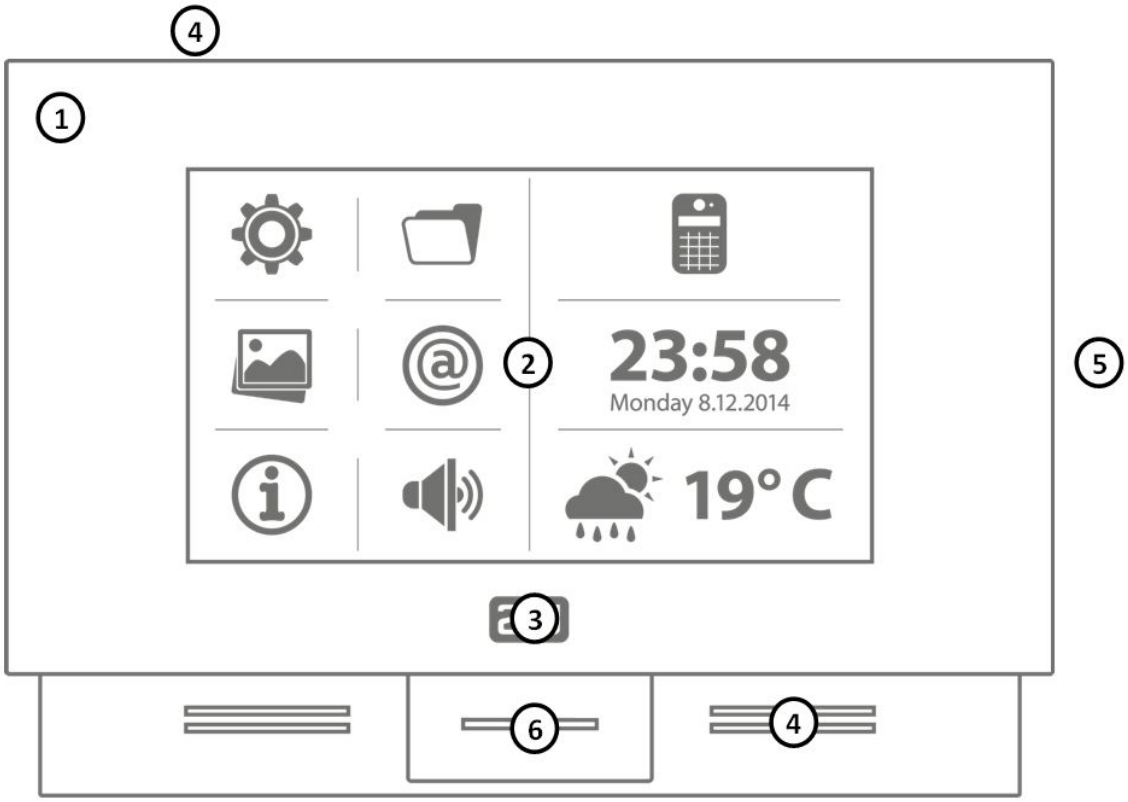
2.1 Before You Start

Product Completeness Check

Please check the **2N® Indoor Touch** delivery before starting installation:

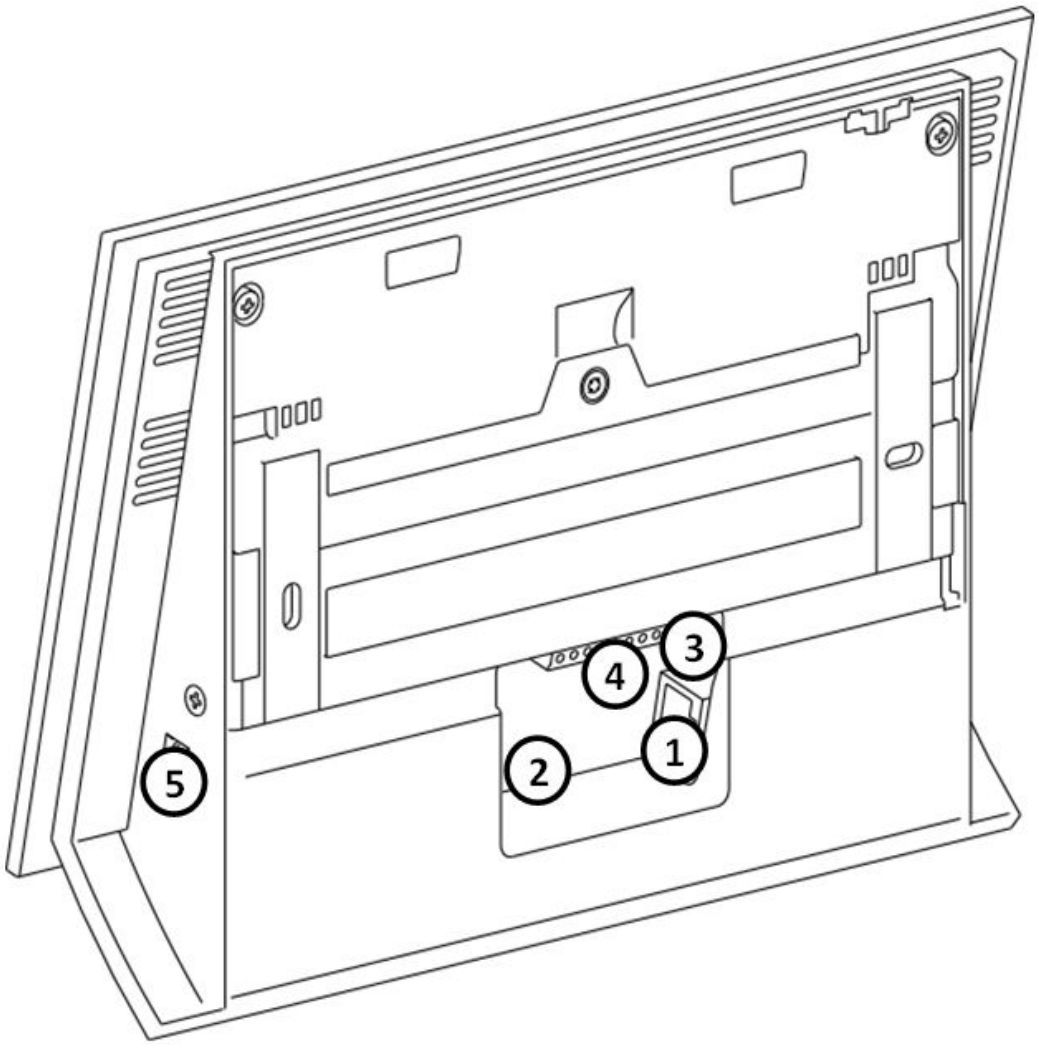
1	Indoor Touch
1	Quick Start manual
1	Wall holder (screwed to device)
1	Installation fittings (2 screws, 2 plugs for flush mounting)

Front Layout



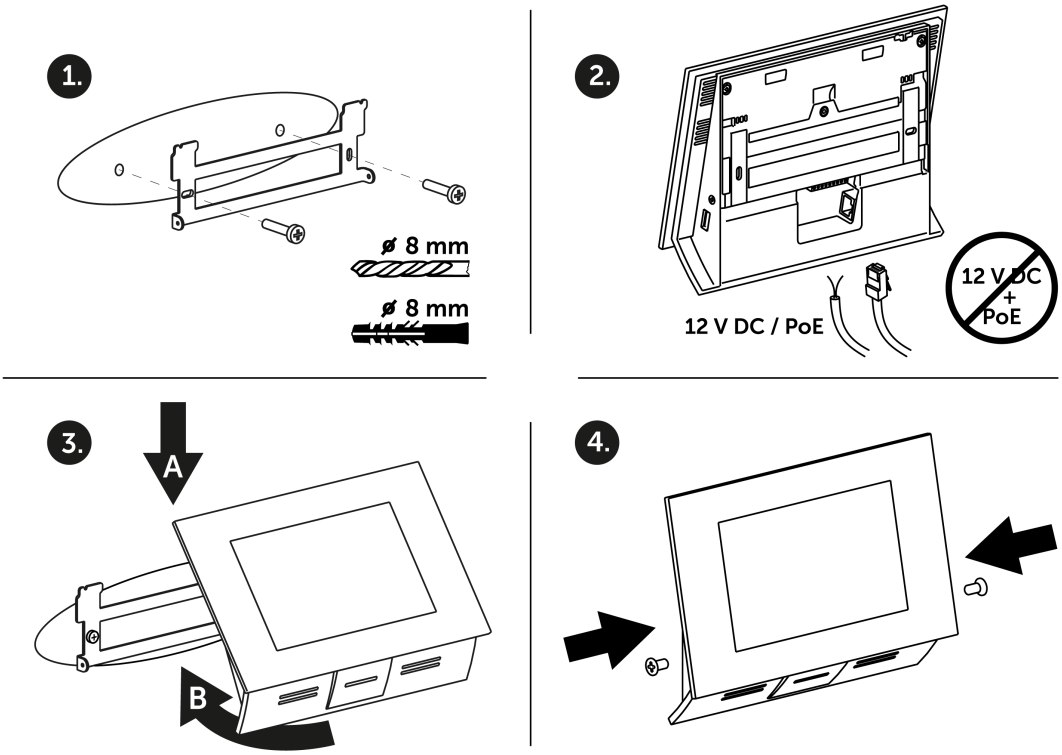
1. Glass frame
2. LCD display with capacitive touch layer
3. Status RGB LED
4. Loudspeaker
5. Microphone
6. micro SD card slot
7. Contactless card reader (depending on the Part No.)

Backside Connectors



1. RJ–45 LAN 10/100BaseT connector
2. 12V/2A DC supply terminal board (only if PoE is not used)
3. Reset / Factory reset button
4. Binary input/output terminal board (for application control)
5. micro SD card slot

2.2 Brief Installation Guide



1. Install the device holder onto a vertical wall. The recommended installation height is 120 cm above the floor. The product package includes screws and plugs for mounting into classic bricks. Use appropriate installation fittings for a different type of wall material!
2. Feed the device via an Ethernet PoE adapter (or PoE supporting Ethernet switch/router) or a 12V DC 2A power adapter.
    a. With PoE supply, just snap RJ-45 into the appropriate connector.
    b. With 12V DC 2A supply, screw the power adapter plus and minus cables into the appropriate terminal board on the device.
    c. Simultaneous PoE + 12V DC 2A supply is not recommended!
3. Put the device on the holder as follows:
    a. Place the device carefully from top to bottom with its bottom part slightly away (up to 5 cm) from the wall.
    b. When the device fits to the main holder supports, push the device bottom part onto the wall.
4. Tighten the safety screws on both the device sides.

2.3 Installation Conditions

Make sure that the following **2N® Indoor Touch** installation conditions are met:

- There must be enough space for **2N® Indoor Touch** installation.
- **2N® Indoor Touch** is designed for vertical wall mounting (perpendicular to the floor) in the height of up to 120 cm above the floor. If necessary, operate **2N® Indoor Touch** in a position other than as aforementioned for a short time only, for quick testing purposes in a servicing centre, for example.
- Exceeding the allowed operating temperature may not affect the device immediately but leads to premature ageing and lower reliability. Refer to 5. Technical Parameters for the acceptable range of operating temperatures and relative humidity values.
- **2N® Indoor Touch** is not designed for environments with increased vibrations such as means of transport, machine rooms and so on.
- **2N® Indoor Touch** is not intended for dusty environments and places with unstable humidity and abrupt temperature changes.
- **2N® Indoor Touch** may not be exposed to aggressive gas, acid vapours, solvents, etc.
- **2N® Indoor Touch** is not intended for direct connection into the Ethernet/Internet.
- **2N® Indoor Touch** must be connected to the Ethernet/Internet via a separating active network element (switch/router).
- **2N® Indoor Touch** is designed for indoor use. It may not be exposed to rain, flowing water, condensing moisture, fog, etc.
- **2N® Indoor Touch** cannot be operated on places exposed to direct sunshine and near heat sources.
- Keep some free space above and below **2N® Indoor Touch** to allow air to flow and conduct heat away.
- No strong electromagnetic radiance is allowed on the installation site.
- The VoIP connection must be configured properly according to the SIP and other VoIP recommendations.
- It is recommended that the power adapter be connected to the mains via a UPS and reliable overvoltage protection.

Wall Mounting

2N® Indoor Touch is designed for wall mounting. Follow the steps below:

1. Unscrew the holder-fitting screws on the device sides.
2. Turn the metal holder slightly aside in the upper part of the device.
3. Move the holder downwards.
4. Fit the loose holder to the wall on the installation site.
5. Put the device on the holder and tighten the safety screws.

Follow the installation instructions printed on the device package.

Power Supply Connection

You can feed **2N® Indoor Touch** as follows:

1. Use any 12V/2A DC power adapter connected to the terminal board (see the figure).
2. Use an Ethernet cable connected to a PoE supply or PoE supporting Ethernet switch/router.

A successful operation is indicated by a status RGB LED or LCD display.

PoE Supply Connection

Use a standard straight RJ-45 terminated cable to connect **2N® Indoor Touch** to the Ethernet. The device supports the 10BaseT and 100BaseT protocols. The Ethernet connection state is indicated by the LEDs placed on the RJ–45 connector.

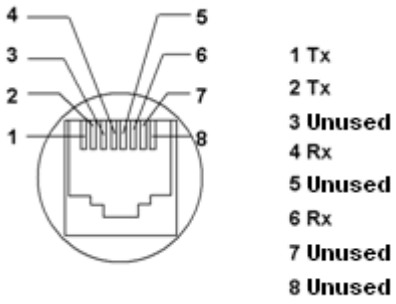
Refer to 3.3 Launcher Configuration for the factory settings of the **2N® Indoor Touch** Ethernet interface.

Caution

- Factory reset results in a change of the Ethernet interface configuration!
- A defective Ethernet cable may lead to a high packet loss in the Ethernet and subsequent instability and poor video call quality!

Warning

- Connection of a defective or improper power adapter may lead to a temporary or permanent failure of the **2N® Indoor Touch** unit!



Licence Limitations

2N® Indoor Touch can contain time-limited software licences. Refer to 3.3 Launcher Configuration for details.

Firmware Upgrade

We recommend you to upgrade the **2N® Indoor Touch** firmware during installation. Refer to www.2n.cz for the latest FW version. Refer to 3.4. Device Upgrade for the firmware upgrade procedure.

2.4 Status LED

Status LED indicates the device states when the LCD display is switched off or the device is in the service mode. See the table below for the LED colours and states:

Device Startup:

Colour	State
Blue is on	Device initialisation
Red is on	First boot phase
Green is on	Operating system start
Yelow is on	Factory setting initialisation
Blue is flashing	Factory reset
Purple is flashing	System upgrade process
No light	Device state is displayed

Standard Operation:

Colour	State
No light	Device state is displayed
White is on	Stand-by mode (display off)
Other states	Notification of other states of applications running in the system (**2N® Helios IP Mobile**, e.g.).

2.5 First Startup

When you start the device for the first time, the initial initialisation (longer start) is performed and indicated by the following LED notification sequence: Blue > Red > Green > Boot animation on the screen > Introductory system screen.
The introductory screen provides essential information for User Manual saving/reading. You can deactivate this screen for later startups.
The table below shows the factory values of relevant device parameters:

Parameter	Value
IP address	will be assigned by the DHCP server
IP mask	will be assigned by the DHCP server
IP gateway	will be assigned by the DHCP server
Access password to configuration	2n
Time/weather location	Prague, CZ
Stand-by switching time	1 minute
SW licence	Basic unlimited licence (or according to the Part No.)

Caution

- Change the access password while configuring the device for the first time to avoid unauthorised access to configuration!

System Licence

2N® Indoor Touch has a factory licence key, which can be time-limited (depending on the Part No.). The licence expiry may cause a partial limitation of the device functionality! Refer to 3.3 Launcher Configuration for the current licence state and licence adding procedure if necessary.

3. 2N® Indoor Touch Configuration

This section describes the **2N® Indoor Touch** configuration.

Here is what you can find in this section:

- 3.1 Factory Reset
- 3.2 Introductory Screen
- 3.3 Launcher Configuration
- 3.4. Device Upgrade

3.1 Factory Reset

Follow the steps below to reset the **2N® Indoor Touch** factory values:

1. Push the Factory reset button in the Launcher Configuration menu. Refer to 3.3 Launcher Configuration.
2. Press and hold the Reset button on the device backside:
   a. Remove the device from the installation holder.
   b. Press the Reset button and hold until the notification RGB LED lights up (yellow).
   c. Release the Reset button and follow the instructions displayed.

Caution

- Factory reset results in a complete deletion of all user data.

3.2 Introductory Screen

The introductory screen provides a total of nine configurable tiles for you to launch specific, user defined applications. The About and Settings buttons are also available here.

Factory settings:

- **Gallery** – launch the photo/image processing application.
- **File manager** – launch a standard file system application.
- **2N® Helios IP mobile** – video call application; refer to 4. 2N® Helios Mobile IP Configuration for details.
- **Browser** – launch an Internet browser application.
- **Time/Date** tiles
- **Weather** tile
- **About** button
- **Settings** - access to configuration section

The lower graphic bar includes five graphic controls:

- **Back icon** – helps you return one level higher or one step back (depending on the application type).
- **Home icon** – helps you return to the introductory screen.
- **Squares icon** – helps you switch the currently launched applications.
- **Loudspeaker icons** – help you increase/decrease the system loudspeaker volume.

3.3 Launcher Configuration

Click the **Settings** button on the introductory page to access the configuration section. Complete the correct access password.

> **Caution**
>
> - The factory access password is "2n". If you lose the access data, you will have to factory reset the device! Change the password in the Settings – Home screen menu.

The configuration section consists of the following screens and subsections:

- **System info** – display information on the device state.
- **Networks** – configure the device network adapters.
- **Local settings** – set the installation site and input device language.
- **Audio** – set the device audio parameters.
- **Display** – set the device display parameters.
- **Home screen** – modify and set the introductory screen buttons.
- **Software** – set the application installation/uninstallation.
- **Advanced** – restart and LOG.

System Info

Display the following information on the device:

- **Device** – serial number, configuration and current state.
- **Local** – local date and time.
- **Memory** – current RAM state.
- **Internal storage** – current internal storage state.
- **Licence** – current licence state.
- **Add licence** – licence adding option*.
- **Cache** – current cache state.
- **SD card storage** – external SD card (if inserted) memory state.
- **LAN, WiFi** – current Ethernet and WiFi adapter configuration.

> **Caution**
>
> - Remember that the original licence key will always be overwritten with the new one! Therefore, add only a valid licence key supplied by your distributor!

Networks

- **LAN** – set the fixed Ethernet interface:
  - **Enable Ethernet** – activate/deactivate the adapter.
  - **DHCP** – enable/disable the DHCP client.
  - **IP address** – IPv4 address if the DHCP client is off.
  - **IP mask** – IPv4 mask if the DHCP client is off.
  - **IP gateway** – gateway IPv4 address if the DHCP client is off.
  - **IP DNS** – DNS server IPv4 address if the DHCP client is off.
- **Wi-Fi** (according to the device type):
  - **Enable Wi-Fi** – activate/deactivate the adapter.
  - **DHCP** – enable/disable the DHCP client.
  - **IP address** – IPv4 address if the DHCP client is off.
  - **IP mask** – IPv4 mask if the DHCP client is off.
  - **IP gateway** – gateway IPv4 address if the DHCP client is off.
  - **IP DNS** – DNS server IPv4 address if the DHCP client is off.

Click Apply settings to save the current adapter settings.

Click Select network to select the WiFi AP network to which the device shall be connected.

Local Settings

- **Open keyboard settings** – set the system keypad.
- **Open language settings** – set the system language.
- **Launcher language** – set the introductory and setting screen language.
- **Open data and time settings** – set the system date/time.
- **Weather** – set the installation site for weather forecast.

Tip

- The weather forecast location includes the local place (town) and country (abbreviated). If you enter an incorrect format, no weather forecast will be displayed. Make sure while setting the location that the device is connected to the Internet. Refer to http://openweathermap.org/ for more details.

Audio

Set the device volume level.

Display

- **Brightness** – set the display brightness level.
- **Turn display off after** – set the timeout for automatic turn-off in case of inactivity.
- **Notification LED**
  - **White LED when display is turned off** – the white LED lights up automatically after the LCD display turn-off to indicate the stand-by mode.
  - **Enable notifications** – enable LED notifications of selected events (missed calls, e.g.) in the stand-by mode.

Home Screen

This section helps you change the position and content of the introductory screen tiles and the configuration access password (click Set password for access to settings).

Software

- **Allow installation of apps from unknown sources** – enable/disable installation of other applications from an SD card or the Internet.
- **Uninstall application** – uninstall the user installed applications.

> ⚠ **Caution**
>
> - By allowing other application installations you may cause system instability due to an application error! Click Factory reset to delete such applications if necessary!

Advanced

- **Force sleep if device temperature is above** – enable the stand-by mode whenever the device temperature exceeds the defined internal temperature limit.*
- **Reboot** – restart the device.
- **Factory reset** – reset the device factory values.

> ⚠ **Caution**
>
> - We do not recommend you to change the preset device temperature limit to avoid device life impairment or system instability! In case the device keeps exceeding the temperature limit, please check the installation conditions!

3.4. Device Upgrade

2N® Indoor Touch can be upgraded via an SD card only. The firmware packet always includes the latest OS version, a Launcher and **2N® Helios IP Mobile** application*. See below for how to upgrade:

1. Download the latest **2N® Indoor Touch** firmware version from www.2n.cz.
2. Get a microSD card of the maximum capacity of 16 GB and with the FAT32 file system.
3. Unpack and save the *.ZIP download into the SD card root directory.
4. Insert the SD card in the SD card slot on the left side of **2N® Indoor Touch** (refer to 2.1 Before You Start).
5. Reset the device as follows:
   a. Press the backside Reset button shortly (refer to 2.1 Before You Start), or
   b. Click the Reboot button in the configuration section of the introductory screen (refer to 3.3 Launcher Configuration).
6. Having detected correct firmware files, **2N® Indoor Touch** invites you to confirm upgrade via a touch screen. The upgrade process is also indicated by an RGB LED on the device front (refer to 2.4 Status LED).
7. Having completed upgrade, remove the SD card and click on the display to restart the system.

Caution

- The first startup after successful upgrade may take a few minutes.
- The factory values can be reset automatically in some upgrade types.

4. 2N® Helios IP Mobile Configuration

This section describes configuration of the pre-installed **2N® Helios IP Mobile** application.

Here is what you can find in this section:

- 4.1 Application Description
- 4.2 Introductory Screen
- 4.3 Notification in 2N® Indoor Touch Environment
- 4.4 Application Configuration
- 4.5 Connection to 2N® Helios IP

4.1 Application Description

2N® Helios IP Mobile is an application designed for making video calls between devices based on the Android OS or iOS and intercoms of the **2N® Helios IP** family. Get the application via the Google Play store (Android OS) or Apple store (iOS). This application is pre-installed in **2N® Indoor Touch** and launched automatically upon every startup (depending on the Part No.).

2N® Helios IP Mobile helps you make calls between the **2N® Indoor Touch** units and, with the SIP Proxy, other SIP supporting devices.

4.2 Introductory Screen

The **2N® Helios IP Mobile** application displays the following introductory screen:

1. List of available intercoms
2. List of missed calls
3. Current video image saving
4. Video transmission
5. Call control
6. Door/Lock control
7. Listening-in enable/disable
8. Access to configuration section

Tip

- Click on the Home button in the system to minimise the application. The application will be restored automatically by an incoming call.

4.3 Notification in 2N® Indoor Touch Environment

The **2N® Helios IP Mobile** application uses LED notification. The **2N® Indoor Touch** LED starts flashing red in case:

- There is an unread incoming call in the application, or
- **2N® Indoor Touch** is in the stand-by mode.

4.4 Application Configuration

The **2N® Helios IP Mobile** application is configured separately and requires just one setting:

- **Application name** - set the application name in the **2N® Helios IP Mobile** configuration section. Set the same name in the **2N® Helios IP** configuration.

4.5 Connection to 2N® Helios IP

Change some settings in the **2N® Helios IP** intercom to be connected to make the **2N® Helios IP Mobile** - **2N® Helios IP** connection effective. Refer to the **2N® Helios IP** User Manual at http://wiki.2n.cz/display/HIP for details.

5. Technical Parameters

Power Supply

- **Type:** external power adapter (SELV type) 90-230 V, 50–60 Hz to 12 V DC 2 A Power over Ethernet (PoE 802.3af)
- **Power input:** up to 10W

User Interface

- **Control:** capacitive touch panel
- **Display size:** 7"
- **Resolution:** 1024x600 px
- **Backlight:** LED
- **Status indicator:** 1 RGB LED

Audio

- **Microphone:** integrated
- **Loudspeaker:** 2W integrated

OS

- **Android 4.2**

Interface

- **LAN:** 10/100BaseT, RJ–45; Ca5e or higher (recommended)
- **Memory card:** SD card (up to 16 GB)
- **WiFi:** 802.11b/g/n, integrated antenna
- **Card reader:** integrated

Mechanical Parameters

- **Dimensions (w x h x d):** 235x165x40 mm
- **Weight:** 850g
- **Operating temperature:** 0°C – 60°C
- **Relative humidity:** 10%–90% (non-condensing)
- **Storing temperature:** -20°C–70°C

6. Supplementary Information

This section provides supplementary information on the **2N® Indoor Touch** product.

Here is what you can find in this section:

- 6.1 Troubleshooting
- 6.2 Directives, Laws and Regulation – General Instructions and Cautions

6.1 Troubleshooting

Trouble: The device always switches off the display before timeout.

- **Advice:** Check the device temperature. If improperly installed, **2N® Indoor Touch** automatically turns into the stand-by mode to reduce the device temperature if critical to avoid forced turn-off / reset in extreme cases. The user is notified of this problem by a short display of the notification window. Display the current device temperature in the Setting section.

Trouble: The device does not start and remains in one of the LED states or gets restarted round and round.

- **Advice:** Press and hold the Reset button on the device backside during the startup to restore the factory values automatically. If the trouble persists, upgrade the system via an SD card. If the trouble still persists, contact the Servicing centre.

Trouble: The device fails to emit sounds, even the incoming call ringing.

- **Advice:** Check the volume setting and adjust the loudspeaker volume level if necessary with the Volume up/down buttons on the lower status bar.

For the most frequently asked questions refer to faq.2n.cz.

6.2 Directives, Laws and Regulation – General Instructions and Cautions

Please read this User Manual carefully before using the product. Follow all instructions and recommendations included herein.

Any use of the product that is in contradiction with the instructions provided herein may result in malfunction, damage or destruction of the product.

The manufacturer shall not be liable and responsible for any damage incurred as a result of a use of the product other than that included herein, namely undue application and disobedience of the recommendations and warnings in contradiction herewith.

Any use or connection of the product other than those included herein shall be considered undue and the manufacturer shall not be liable for any consequences arisen as a result of such misconduct.

Moreover, the manufacturer shall not be liable for any damage or destruction of the product incurred as a result of misplacement, incompetent installation and/or undue operation and use of the product in contradiction herewith.

The manufacturer assumes no responsibility for any malfunction, damage or destruction of the product caused by incompetent replacement of parts or due to the use of reproduction parts or components.

The manufacturer shall not be liable and responsible for any loss or damage incurred as a result of a natural disaster or any other unfavourable natural condition.

The manufacturer shall not be held liable for any damage of the product arising during the shipping thereof.

The manufacturer shall not make any warrant with regard to data loss or damage.

The manufacturer shall not be liable and responsible for any direct or indirect damage incurred as a result of a use of the product in contradiction herewith or a failure of the product due to a use in contradiction herewith.

All applicable legal regulations concerning the product installation and use as well as provisions of technical standards on electric installations have to be obeyed. The manufacturer shall not be liable and responsible for damage or destruction of the product or damage incurred by the consumer in case the product is used and handled contrary to the said regulations and provisions.

The consumer shall, at its own expense, obtain software protection of the product. The manufacturer shall not be held liable and responsible for any damage incurred as a result of the use of deficient or substandard security software.

The consumer shall, without delay, change the access password for the product after installation. The manufacturer shall not be held liable or responsible for any damage incurred by the consumer in connection with the use of the original password.

The manufacturer also assumes no responsibility for additional costs incurred by the consumer as a result of making calls using a line with an increased tariff.

Electric Waste and Used Battery Pack Handling

Do not place used electric devices and battery packs into municipal waste containers. An undue disposal thereof might impair the environment!

Deliver your expired electric appliances and battery packs removed from them to dedicated dumpsites or containers or give them back to the dealer or manufacturer for environmental-friendly disposal. The dealer or manufacturer shall take the product back free of charge and without requiring another purchase. Make sure that the devices to be disposed of are complete.

Do not throw battery packs into fire. Battery packs may not be taken into parts or short-circuited either.

CIE-Group Ltd
3 Widdowson Close, Blenheim Ind. Est., Bulwell, Nottingham NG6 8WB, UK
Phone: +44 (0115) 977 0075, Fax: +44 (0115) 977 0081
E-mail: info@cie-group.com
Web: www.cie-group.com

PR2098v1.2